WHAT WE CLAIM IS:

1. A photoelectric sensor including a photoconductive layer on an electrode and used to record information on an information recording medium, characterized in that when voltage is applied to said sensor after said sensor has been exposed to light with no voltage applied thereto or voltage of opposite polarity applied thereto, a photo-induced current is generated depending on exposure quantity so that the information can be recorded on said information recording medium.

2. A photoelectric sensor including a photo-conductive layer on an electrode and used to record information on an information recording medium, characterized in that said sensor is exposed to information light with voltage applied thereto, whereby the exposed portion is made higher in conductivity than the unexposed portion and the exposed portion is kept still higher in conductivity than the unexposed portion even after the exposure of said sensor to information light has been finished, and while said sensor remains exposed to information light or after the exposure of said sensor to information light has been finished, the application of voltage thereto is interrupted or voltage of opposite polarity is applied thereto, and then the original voltage is again applied thereto, whereby the resulting conductivity is made equal to that obtained by the continued application of voltage.

3. The photoelectric sensor as claimed in Claim 1 or 2, characterized in that when an electric field of 10^5 to 10^6

V/m is applied to said sensor, a current passing through the unexposed portion has a current density of 10^{-4} to 10^{-7} A/cm^2.

4. An image recording method wherein light information is recorded on an information recording medium by exposure to light information, characterized by use of the photoelectric sensor as claimed in Claim 1 or 3 and an information recording medium having an information recording layer formed on an electrode,

the electrode of at least one of said photoelectric sensor and said information recording medium being a transparent electrode, and

said photoelectric sensor being opposed to said information recording medium on the optical axis with a gap located therebetween, or said photoelectric sensor and said information recording medium being stacked on each other with or without a dielectric interlayer located therebetween,

so that after said sensor has been exposed to light information or while said sensor is being exposed to light information, the application of voltage between both said electrodes is started.

5. The information recording method as claimed in Claim 4, characterized in that said information recording medium is a liquid crystal recording medium including on said electrode a liquid crystal-polymer composite material layer comprising liquid crystals and resin.

6. The information recording method as claimed in Claim 5, characterized in that after an elapse of a certain

time upon the exposure of said sensor to light information finished, the application of voltage to both said electrodes is started thereby making the latitude of the recorded image wide.

7. The information recording method as claimed in Claim 6, characterized in that the period of time from the finish of the exposure of said sensor to light information to the start of the application of voltage to both said electrodes is 0 to 500 milliseconds.

8. An image recording method wherein light information is recorded on an information recording medium by exposure to information light, characterized by use of a photoelectric sensor as claimed in Claim 2 or 3 and an information recording medium including an information recording layer formed on an electrode,

the electrode of at least one of said photoelectric sensor and said information recording medium being a transparent electrode, and

said photoelectric sensor being opposed to said information recording medium on the optical axis with a gap located therebetween, or said photoelectric sensor and said information recording medium being stacked upon each other with or without a dielectric interlayer located therebetween,

so that said sensor is exposed to light information, and while said sensor is being exposed to light information or after said sensor has been exposed to light information, the period of time wherein no voltage is applied to both said

electrodes or the period of time wherein voltage of opposite polarity is applied to both said electrodes is provided.

9. The information recording method as claimed in Claim 8, characterized in that said information recording medium is a liquid crystal recording medium including on said electrode a liquid crystal-polymer composite material layer comprising liquid crystals and resin.

10. An image recording method wherein light information is recorded on an information recording medium by exposure to light information, wherein the photoelectric sensor and an information recording medium having an information recording layer formed on an electrode are used,

the electrode of at least one of said photoelectric sensor and said information recording medium being a transparent electrode, and

said photoelectric sensor being opposed to said information recording medium on the optical axis with a gap located therebetween, or said photoelectric sensor and said information recording medium being stacked on each other with or without a dielectric interlayer located therebetween,

so that said sensor is exposed to light information and voltage is applied between both electrodes of said sensor and said recording medium to record information thereon, characterized in that:

the exposure of said sensor to image light and the application of voltage to both said electrodes are properly achieved in response to shutter speed, so that the reciprocity law can be satisfied over a wide range.

11. The information recording method as claimed in Claim 10, characterized in that said information recording medium is a liquid crystal recording medium including on said electrode a liquid crystal-polymer composite material layer comprising liquid crystals and resin.

12. The information recording method as claimed in Claim 11, characterized in that f-number or exposure time is corrected on the basis of the predetermined relation between the shutter speed and the recording properties, so that the reciprocity law can be satisfied over a wide range.

13. The information recording method as claimed in Claim 11, characterized in that a reciprocity law failure is compensated for by starting the exposure of the photoelectric sensor as claimed in Claim 1 or 3 to image light prior to starting the application of voltage to both said electrodes.

14. The information recording method as claimed in Claim 11, characterized in that the period of time wherein no voltage is applied to both said electrodes or the period of time wherein voltage of opposite polarity is applied to both said electrodes is provided while the photoelectric sensor claimed in Claim 2 or 3 is being exposed to image light or after the exposure of said sensor to image light has been finished, thereby compensating for a reciprocity law failure.

15. The information recording method as claimed in Claim 11, characterized in that the application of voltage to both said electrodes is started after an elapse of a certain time upon the exposure of the photoelectric sensor as claimed in Claim 1 or 3 to image light finished.

16. The information recording method as claimed in Claim 11, characterized in that the applied voltage and/or the voltage applying time are controlled, thereby compensating for a reciprocity law failure.

17. An image recording system wherein light information is recorded on an information recording medium by exposure to information light, characterized by comprising a photoelectric sensor including an electrode and an information recording medium having an information recording layer formed on an electrode,

the electrode of at least one of said photoelectric sensor and said information recording medium being a transparent electrode, and

said photoelectric sensor being opposed to said information recording medium on the optical axis with a gap located therebetween, or said photoelectric sensor and said information recording medium being stacked on each other with or without a dielectric interlayer located therebetween, and

a mechanism for starting the application of voltage between both said electrodes after said sensor has been exposed to light information or while said sensor is being exposed to light information.

18. An information recording system constructed from a one-piece type medium comprising a photoelectric sensor having a photoconductive layer stacked on a transparent electrode, an information recording medium having an information recording layer stacked on an electrode and an upper electrode, said photoelectric sensor being opposed to

said information recording medium on the optical axis with a gap located therebetween, or said photoelectric sensor and said information recording medium being stacked upon each other with or without a dielectric interlayer located therebetween, wherein said photoelectric sensor is exposed to image light and voltage is applied between both said electrodes to record image or other information on said information recording medium in response to exposure quantity, characterized by further including means for measuring exposure intensity to calculate exposure time and/or input means for exposure time, and having a function of controlling a shutter and a power source under proper conditions in response to the exposure time, thereby allowing the reciprocity law to be satisfied over a wide range of exposure time.